AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier.

Listing of Claims

1. (Currently Amended) A compound of the formula:

wherein:

X is -O, -CH₂, -CHK (wherein K is -H, -C₁₋₄ alkyl, -C₃₋₆cycloalkyl), -<u>CH(C₃₋₆cycloalkyl)</u>, -S, -aryl, -arylalkyl;

R is -H, -C₁₋₄ alkyl <u>optionally</u> (containing one or more of-heteroatoms <u>selected from like</u> O, S₇ <u>or N) in the chain</u>, -C₃₋₆cycloalkyl <u>optionally</u> (containing one or more of heteroatoms <u>selected from like-O</u>, S₇ <u>or N) in the ring</u>, -aryl, arylalkyl, heterocycle;

Y is -H, -C₁₋₄ alkyl, -C₃₋₆cycloalkyl;

Z is $\frac{H}{C_{1-4}}$ alkyl, $-C_{3-6}$ cycloalkyl;

 \mathbf{R}_1 is $-H_1-C_{1-4}$ alkyl, halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), -SW (wherein W is -H, -CH₃, -aryl);

 \mathbf{R}_2 is -H, -C₁₋₄ alkyl, -halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), -SW (wherein W is -H, -CH₃, -aryl);

 ${f R}_3$ is -H, -C₁₋₄ alkyl, -halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), -SW (wherein W is -H, -CH₃, -aryl);

R₄ is -H, -C₁₋₄ alkyl, -halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), -SW (wherein

W is -H, $-CH_3$, -aryl);

 \mathbf{R}_5 is -H, -C₁₋₄ alkyl, -halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), -SW (where W is -H, -CH₃, -aryl); and

R₁ and R₂ are optionally CH=CH-CH=CH;

or a pharmaceutically acceptable salt or soluble derivative thereof.

- 2. (Canceled).
- 3. (Currently Amended) A compound having formula A as claimed in claim 1 wherein

3. (Jurreniny .	Amended)	1 Compositi					
X = S	Y = H	Z = H	R = sBu	$R_1 = NO_2$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = H$
X=S	Y = H	Z = H	R = sBu	$R_4 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_s = H$
$\frac{X-S}{X}$	Y = H	Z = H	$R = CH_3$	$R_1 = C1$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = C1$
$\frac{X=S}{X}$	Y = H	Z=H	R = /p	$R_1 = C1$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_s = Cl$
$\frac{X-S}{X}$	Y = H	Z = H	R = nBu	$R_1 = C1$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_s = Cl$
$\frac{X-S}{X}$	Y=H	Z = H	R = iBu	$R_1 = Cl$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_s = C1$
	Y=H	Z = H	R = sBu	$R_1 = C1$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_s = Cl$
X = S	1 - 11 Y = H	Z=H	R=	$R_1 = C1$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_s = Cl$
X = S	1-11	2 11	cPen	•				
X = S	Y = H	Z = H	R = cEs	$R_1 = C1$	$R_2 = H$	$R_3 = H$		$R_5 = Cl$
X = S	Y = H	Z = H	$R = CH_3$	$\mathbf{R}_{4} = \mathbf{F}$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F$
$\frac{X-S}{X}$	Y = H	<u>Z=H</u>	R = iPr	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F$
X = S	Y = H	Z = H	R = nBu	$R_1 = F$	$R_2 = H$	$P_3 = H$	$R_4 = H$	$R_5 = F$
$\frac{X-S}{X}$	Y = H	Z = H	R = iBu	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F$
$\frac{X-S}{X}$	Υ = H	Z=H	R = sBu	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F$
$\frac{X-S}{X-S}$	Υ = H	Z = H	R =	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F$
7 5	1 11	_	<u>e₽en</u>					n - E
X = S	Y = H	Z = H	R = cEs	$R_1 = F$	$R_2 = H$			
X = S	Y = H	$Z = CH_3$	R = iPr	$R_1 = C1$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = Cl;$
				D C1	$R_2 = H$	$R_3 = H$	$R_4 = H$	
X = S	Y = H	$Z = CH_3$	R = Pen	$R_1 = Cl$	$R_2 - \Pi$	13 – 11	104 11	Cl;
37 - C	Y = H	$Z = CH_3$	R = cEs	$R_4 = Cl$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_s = Cl$
X=S			R = iBu	$R_1 = Cl$	$R_2 = H$		$R_4 = H$	
X = S	Y = H	<u> Z</u> – Et	ic .bu	1	_			Cl <u>;</u>
X = S	Y = H	Z = Et	R = iPer	$R_1 = C1$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = Cl;$
								CI ₂

_	** 11	Z = Et	R = cEs	$R_1 = C1$	$R_2 = H$	$R_3 = H$	$R_4 = H$	R _s = Cl
X=S	Y = 	_	R = i Pr	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F_{:}$
X = S	Y = H	$Z = CH_3$	R = iBu	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F_{:}$
X = S	Y = H	$Z = CH_3$	R = nBu	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F_{:}$
X = S	Y = H	$Z = CH_3$	R = sBu	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F$:
X = S	Y = H	$Z = CH_3$		$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F$:
X = S.	Y = H	$Z = CH_3$	R = cPen	$\mathbf{K}_{1} = \mathbf{I}$	102 11	3		
X = S	Y = H	$Z = CH_3$	R = cEs	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F_{:}$
X = S	Y = H	Z = Et	R = iPr	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F_{:}$
X = S	Y = H	Z = Et	R =	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F:$
A 5	•		cPen			D II	р – И	$R_s = F$
X = S	Y = H	Z = Et	R = cEs	$R_1 = F$	$R_2 = H$	5	$R_4 = H$	$R_5 = H$
X = S	Y = H	$Z = CH_3$	R = cEs	-CH=CH-($R_3 = H$	R ₄ =H	$R_5 = H$
X = S	Y_=	Z=H	R = sBu	$R_1 = C1$	$R_2 = H$	$R_3 = H$	$R_4 = H$	K ş—II
	CH ₃		~ D	D E	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_s = H$
X = S	<u>Υ</u> =	Z = H	R = sBu	$R_1 = F$	102-11	10, 11		
** C	CH ₃ ¥=	Z=H	R = sBu	$R_4 = Cl$	$R_2 = H$	$P_3 = H$	$R_4 = H$	$R_5 = Cl$
X = S	T− CH ₃	2-11	10 32 3	•	•			D F
X = S	Y =	Z = H	R = CH	$R_1 = F$	$R_2 = H$	$R_3 = H$	$R_4 = H$	$R_5 = F$
	CH_3		_		R ₂ = H	$R_3 = H$	$R_4 = H$	$R_5 = F$
X=S		Z = H	R = iPr	$R_1 = F$	K2-11	R 311	144 22	J
0	CH ₃	Z = H	<u>D == nB</u>	u R ₁ = F	$R_2 = 11$	$R_3 = H$	$R_4 = H$	$R_s = F$
X = S	Y = CH ₃	∠-11	R- nD	u				
x = s		Z = H	R = iBt	$R_1 = F$	$R_2 = \Gamma$	$R_3 = H$	$R_4 = H$	$R_5 = F$
71 5	CH ₃				n 1	1 D - E	I R ₄ − H	$\mathbf{p}_s = \mathbf{F}$
X = S		Z = H	R = sB	$\mathbf{H} = \mathbf{F}$	$R_2 = 1$	1 K3 1.	1 14-11	14, 1
	CH ₃	7 11	D	$R_1 = F$	$R_2 = I$	1 R ₃ =1	$R_4 = H$	$R_5 = F$
X = S	; Y= CH ₃	Z=H	cPen	R 41				
<u> </u>		Z = H	_	$R_4 = F$	$R_2 = 1$	$R_3 = I$	$R_4 = H$	$R_5 = F$
	CH ₃	_					7 D - I	т D. = Б.
X = S		Z = CH	$I_3 R = C$	$H_3 R_1 = F$	$R_2 = 1$	$H R_3 = 1$	$H K_4 = F$	$I R_5 = F;$
	CH ₃			11 D - F	$\mathbf{p}_{\alpha} = \mathbf{r}$	$\mathbf{H} \mathbf{R}_2 = 1$	H R₄ = I	$R_5 = F_2$
X = 0			$H_3 R = C$	$H_3 R_1 = F$	K ₂ =			
37	CH_3 S Y =		$H_2 = R = sH$	$Bu R_1 = F$	$R_2 =$	$H R_3 =$	$H R_4 = I$	$R_5 = F_2$
X =	$S Y = CH_3$.15 16 51					
	,			4				

- 4. (Canceled).
- (Currently Amended) A pharmaceutically acceptable salt or soluble derivative of a compound of claim 1.
- 6. (Previously Presented) A process for the preparation of a compound having formula A as claimed in claim 1 wherein X = O, wherein the proper methyl arylacetylalkylacetate is reacted with O-methylisourea in presence of calcium hydroxide; the so obtained 2-O-methyl(5-alkyl)-6-benzyl(substituted)uracils are reacted with the proper potassium alkoxide according to scheme A.
- 7. (Previously Presented) A process for the preparation of a compound having formula A as claimed in claim 1 wherein X = S, wherein the proper ethyl arylacetylalkylacetate is reacted with thiourea in presence of sodium methoxide; the so obtained 5-alkyl-6-benzyl(substituted)2-thiouracils are reacted with methyl iodide or with an alkyl halide in a basic medium according to scheme B.
- 8. (Canceled).

- 9. (Currently Amended) A method of preventing infection of HIV, or of treating infection by HIV or of treating AIDS, comprising administering to a mammal an effective amount of a compound as claimed in claim 1 or a pharmaceutically acceptable salt or soluble derivative thereof.
- 10. (Canceled).
- (Currently Amended) A pharmaceutical composition useful for preventing or treating infection of HIV or for treating AIDS, comprising an effective amount of a compound as claimed in claim 1 or a pharmaceutically acceptable salt or soluble derivative thereof, and a pharmaceutically acceptable carrier.
- (Currently Amended) A method of preventing infection of HIV, or of treating 12. infection by HIV or of treating AIDS, comprising administering to a mammal an effective amount of a compound as claimed in claim 1 or a pharmaceutically acceptable salt or soluble derivative thereof in combination with another anti-HIV agent selected from the group consisting of abacavir, zidovudine, BILA 1906, BILA 2185, BM+51.0836: triazoloisoindolinone derivative, BMS 186,318: aminodiol derivative HIV-1 protease inhibitor, d4API, stavudine, efavirenz, HBY097, HEPT, KNI-272, L697,593, L-735,524, L-697,661, L-FDDC, L-FDOC, nevirapine, foscarnet, PMEA, PMPA, Ro 31-8959, RPI-3121, SC-52151, SC-55389A, TIBO R82150, TIBO 82913, TSAO-m3T, U90152, UC: thiocarboxanilide derivatives, UC-781, UC-82, VB 11,328, amprenavir, XM 323, delaviridine, famciclovir, gancyclovir, penciclovir, indinavir, nelfinavir, ritonavir, saquinavir, DDI, DDC, Delaviridine, β -LddA, β-L-3'-azido-d5FC, carbovir, acyclovir, interferon, stavudine, (3'-azido-2',3'dideoxy-5-methyl-cytidine), 3'azido nucleosides, β -D-dioxolane nucleosides such as β -D-dioxolanylguanine (DXG), β -D-dioxolanyl-2,6-diaminopurine (DAPD), and β -Ddioxolanyl-6-chloropurine (ACP), D4T, FTC, 3TC, AZDU, and amprenavir.
 - 13. (New) A compound of the formula:

wherein:

X is -O, -CH₂, -CH(C₁₋₄ alkyl), -CH(C₃₋₆cycloalkyl), -S, -aryl, or -arylalkyl;

R is -H, -C₁₋₄ alkyl optionally containing one or more heteroatoms selected from O, S or N in the chain, -C₃₋₆cycloalkyl optionally containing one or more heteroatoms selected from O, S or N in the ring, -aryl, arylalkyl, or heterocycle;

Y is -H, -C₁₋₄ alkyl, or -C₃₋₆cycloalkyl;

Z is -H, -C₁₋₄ alkyl, or -C₃₋₆cycloalkyl;

R₁ is -C₁₋₄ alkyl, halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), or -SW (wherein W is -H, -CH₃, -aryl);

R₂ is -H, -C₁₋₄ alkyl, -halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), or -SW (wherein W is -H, -CH₃, -aryl);

R₃ is -H, -C₁₋₄ alkyl, -halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), or -SW (wherein W is -H, -CH₃, -aryl);

R₄ is -H, -C₁₋₄ alkyl, -halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), or -SW (wherein W is -H, -CH₃, -aryl);

R₅ is -H, -C₁₋₄ alkyl, -halogen, -NO₂, -OW (wherein W is -H, -CH₃, -aryl), or -SW (where W is -H, -CH₃, -aryl); and

R₁ and R₂ are optionally CH=CH-CH=CH;

or a pharmaceutically acceptable salt thereof.

14. (New) A compound having formula B as claimed in claim 13 wherein X = O Y = H Z = H R = sBu $R_1 = F$ $R_2 = H$ $R_3 = H$ $R_4 = H$ $R_5 = F$; or

$$X = O Y = H Z = H R = cPen R_1 = F R_2 = H R_3 = H R_4 = H R_5 = F.$$

15. (New) A compound having formula B as claimed in claim 13 wherein

16. (New) A pharmaceutically acceptable salt of a compound of claim 13.

- 17. (New) A process for the preparation of a compound having formula B as claimed in claim 13 wherein X = O, wherein the proper methyl arylacetylalkylacetate is reacted with O-methylisourea in presence of calcium hydroxide; the so obtained 2-O-methyl(5-alkyl)-6-benzyl(substituted)uracils are reacted with the proper potassium alkoxide according to scheme A.
- 18. (New) A process for the preparation of a compound having formula B as claimed in claim 13 wherein X = S, wherein the proper ethyl arylacetylalkylacetate is reacted with thiourea in presence of sodium methoxide; the so obtained 5-alkyl-6-benzyl-substituted 2-thiouracils are reacted with methyl iodide or with an alkyl halide in a basic medium according to scheme B.
- 19. (New) A method of treating infection by HIV, or of treating AIDS, comprising administering to a mammal an effective amount of a compound as claimed in claim 13 or a pharmaceutically acceptable salt thereof.
- 20 (New) A pharmaceutical composition comprising a compound as claimed in claim 13 or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.
- (New) A method of treating infection by HIV or of treating AIDS, comprising 21. administering to a mammal an effective amount of a compound as claimed in claim 13 or a pharmaceutically acceptable salt thereof in combination with another anti-HIV agent selected from the group consisting of abacavir, zidovudine, BILA 1906, BILA 2185, BM+51.0836: triazoloisoindolinone derivative, BMS 186,318: aminodiol derivative HIV-1 protease inhibitor, d4API, stavudine, efavirenz, HBY097, HEPT, KNI-272, L697,593, L-735,524, L-697,661, L-FDDC, L-FDOC, nevirapine, foscarnet, PMEA, PMPA, Ro 31-8959, RPI-3121, SC-52151, SC-55389A, TIBO R82150, TIBO 82913, TSAO-m3T, U90152, UC: thiocarboxanilide derivatives, UC-781, UC-82, VB 11,328, amprenavir, XM 323, delaviridine, famciclovir, gancyclovir, penciclovir, indinavir, nelfinavir, ritonavir, saquinavir, DDI, DDC, Delaviridine, β-LddA, β-L-3'-azido-d5FC, carbovir, acyclovir, interferon, stavudine, (3'-azido-2',3'dideoxy-5-methyl-cytidine), 3'azido nucleosides, β-D-dioxolane nucleosides such as β -D-dioxolanylguanine (DXG), β -D-dioxolanyl-2,6-diaminopurine (DAPD), and β -Ddioxolanyl-6-chloropurine (ACP), D4T, FTC, 3TC, AZDU, and amprenavir.